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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,314	02/12/2004	Alvar Bray	108347-00018 (089.0001)	4086
4372	7590	02/21/2007		
ARENT FOX PLLC 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			EXAMINER DEWS, BROOKE J	
			ART UNIT 2182	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/776,314		BRAY ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Brooke J. Dews		2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/12/2004</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because black-boxes (2, 7, and 12-16 found in Figure 2) should be labeled with appropriate function (i.e. address bus 2, pseudo registers 12 and 13, and so on) to better illustrate the claimed invention to the public. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the

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printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 9 recites the limitation "the Hard Disk Drive Controllers" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 1-6, and 8-9 are rejected because functional limitations are recited in the form of intended use (for exchanging, for controlling, for storing). It is unclear if the Applicant intends to include such limitations in the claims. The claim will be rejected as if those limitations are positively recited. (For instance, "to exchange" instead of "for exchanging").

Correction/Clarification requires.

For the purpose of examination, the Examiner will consider the claims are negatively recited in the claims.

*Claim Rejections - 35 USC § 103*

4. Claim 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rita M. O'Brien (EP 0684544), hereafter O'Brien, in view of Harold J Plourde Jr. (US Application 2003/0105918), hereafter Plourde.

**Regarding claim 1** O'Brien discloses a device for storing and accessing digital data and comprising:

discloses a hard disk drive (**floppy drive 77**)

a Hard Disk Drive Controller (**floppy controller 75**) for controlling access to the hard disk drive (**77**), the Hard Disk Drive Controller (**75**) comprising at least one register (**configuration register 73 or DIR register 79**) for storing parameters defining a hard disk drive access operation (**Column 4 line 6-10**) and indicating the status of that operation (**73 indicating a decision to respond and 79 indicates the status of any disk change signal**); (**Column 8 line 28-39**)

at least two further registers (**ACR register 155 and ISACFG register 165**) corresponding in number to the number applications or processing elements (**floppy controller 75 and IDE controller 125**), each further register arranged to store parameters defining a hard disk drive access operation (**Column 3 line 46-55**) from the associated application/processing element (**75 and 125**), and parameters indicating the status of that operation (**Column 9 line 34-48**);

and processing means (**integrated processor IP 50, via buffer interface unit BIU 80**) for exchanging parameters (**signal; Column 3 line 58-Column 3 line 1-3**) between the register of the Hard Disk Drive Controller (**configuration register 73 or DIR register 79**) and those of said two further registers (**ACR register 155 and ISACFG register 165**).

Though O'Brien discloses the structural elements, O'Brien does not explicitly disclose the hard disk drive (**floppy drive 77**) partitioned to provide a separate file storage area for each of a plurality of applications or processing elements.

Plourde discloses a hard disk drive (**storage device 373 via disk 300; Figure 3A**) partitioned (**sectioned 301 and clustered 303 according to Figure 3B**) to provide a separate file storage area for each of a plurality of applications or processing elements (**Paragraph [0065]**).

O'Brien and Plourde are analogous art because they are from the same field of endeavor involving dynamic-type storage devices, where address schemes are particular to a data storage

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device requiring relative motion between a data holding medium and a recording mechanism such as disk, tape, etc.

It would have been obvious to one having ordinary skill in the art at the time of invention to use Plourde's cluster management methods with O'Brien's system using two registers. The motivation being to allow buffer files and non-buffer files to share a portion of the clusters in a disk drive. **(abstract of Plourde)**

**Claim 2** is rejected for the reasons hereinabove for claim 1, and O'Brien further discloses a device wherein said processing means (**integrated processor IP 50, via buffer interface unit BIU 80**) and said further configuration registers (**ACR register 155 and ISACFG register 165**) are implemented using hardware (**processor and register put into effect using hardware**).

**Claim 4** is rejected for the reasons hereinabove for claim 1, and further O'Brien discloses a device wherein

said processing means (**integrated processor IP 50, via buffer interface unit BIU 80**) is arranged to facilitate hard disk drive (**floppy drive 77**) access (via signal; **Column 3 line 58-Column 3 line 1-3**) to each of said applications/processing elements (**floppy controller 75 and IDE controller 125**) in turn,

transferring parameters identifying the data to be accessed (**via status information and disk change data; Column 1 line 5-12**) from the further registers (**ACR register 155 and ISACFG register 165**) to the register of the Hard Disk Drive Controller (**configuration register 73 or DIR register 79**),

and transferring status data from the Hard Disk Drive Controller registers (**configuration register 73 or DIR register 79**) to the further registers (**ACR register 155 and ISACFG register 165**), and interrupts (**checks the status during operation, via BIU 80**) to the applications/processing elements (**floppy controller 75 and IDE controller 125**). (**Column 8 line 28-39; Column 9 line 34-48**)

**Claim 5** is rejected for the reasons hereinabove for claim 1, and further Plourde discloses the disk being partitioned (**Figure 3B**) to provide a storage area for a plurality of applications (**via device driver 311**), the applications including at least an operating system and a video system,

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the latter making use of the hard disk to store digital video data (**media content and/or media data**). (**Paragraph [0065]**)

**Claim 6** is rejected for the reasons hereinabove for claim 5, and further Plourde discloses a device (**digital home communication terminal, DHCT 16**) comprising one or more processing means (**Processor 344**) for implementing said applications. (**Figure 3A**)

**Regarding claim 7** O'Brien discloses a method of accessing and storing digital data on a hard disk drive (**floppy drive 77**), for each of a plurality of applications/processing elements (**floppy controller 75 and IDE controller 125**), the method comprising:

writing data defining disk access requests from said applications/processing elements (**via disk change bit D7**) to respective pseudo Hard Disk Drive Controller registers (**via BIU 80**); (**D7 obtained from floppy controller 75; Column 10 line 33-48**)

exchanging access request data and status data (**transfer of data**) between the pseudo registers (**via BIU 80**) and a Hard Disk Drive Controller register (**via floppy controller 75**) (**via PCI bus 100**) such that at any given time the Hard Disk Drive Controller is actioning an access request from one of the applications/processing elements. (**Column 5 line 9-20**)

O'Brien does not explicitly disclose the hard disk drive (**floppy drive 77**) being partitioned to provide separate file storage areas.

Plourde discloses a hard disk drive (**disk 300 via storage device 73**) being partitioned (**sectioned and clustered**) to provide separate file storage areas (**Figure 3B**).

O'Brien and Plourde are analogous art because they are from the same field of endeavor involving dynamic-type storage devices, where address schemes are particular to a data storage device requiring relative motion between a data holding medium and a recording mechanism such as disk, tape, etc.

It would have been obvious to one having ordinary skill in the art at the time of invention to use Plourde's cluster management methods with O'Brien's system using two registers. The motivation being to allow buffer files and non-buffer files to share a portion of the clusters in a disk drive. (**abstract of Plourde**)

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**Claim 8** is rejected for the reasons hereinabove for claim 1, and further discloses a device wherein said processing means (**floppy controller 75 and IDE controller 125**) monitors read and write operations to the further registers (**checks the status of bits in registers**), and arbitrates (**determines whether to merge the data**) access to the Hard Disk Drive Controller. (Column 9 line 34- Column 10 line 2)

**Claim 9** is rejected for the reasons hereinabove for claim 2, and further discloses a device wherein said processing means (**floppy controller 75 and IDE controller 125**) monitors read and write operations to the further registers (**checks the status of bits in registers**), and arbitrates (**determines whether to merge the data**) access to the Hard Disk Drive Controllers. (Column 9 line 34- Column 10 line 2)

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brooke J. Dews whose telephone number is 571-270-1013. The examiner can normally be reached on M-Th 7:30-5:00, alternate F 7:30-4:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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